

REMARKS

In the subject office action, it is noted that Fig. 1 should be designated --Prior Art--. In a substitute drawing sheet submitted herewith, a Prior Art designation has been added to Fig. 1. Approval of this amendment to Fig. 1 and entry of the substitute drawing sheet containing Fig. 1 are respectfully solicited.

An objection to the drawing under 37 CFR 1.83(a) is noted in the office action. Specifically, it is noted that the drawing must show every feature of the invention specified in the claims and that a double sliding needlebar, loopers, hooks, knives and driving means must be shown or those features must be canceled from the claims. The objection concluded with the proviso that no new matter should be entered. With this paper, applicants are submitting a new Fig. 4 which illustrates the relevant portions of a tufting machine. The drawing is loosely based on drawing figures found in US Patent No. 5,193,472. A description of Fig. 4 has been added to the specification. The drawing figure does not constitute new matter because it simply illustrates what was disclosed and described originally in the subject application, namely, a tufting machine with a double sliding needlebar, loopers and/or hooks, knives and driving means. The description doesn't constitute new matter because it simply describes the elements of a machine that is known in the art to the extent that it is described in US Patent No. 5,193,472. Approval and entry of new Fig. 4 are respectfully solicited.

The specification is objected to because of errors in syntax and spelling. By the foregoing amendments to the specification, the applicants have addressed and corrected each and every error noted in the office action, as well as some additional, troublesome passages. Approval and entry of the amendments to the specification are respectfully solicited.

Claims 2 and 3 are objected to because of a grammatical error. Claims 1 through 25 have been canceled making this objection moot. However, portions of the new claims corresponding with the objected to portions of claims 2 and 3 have been written to avoid the objection.

Claims 1-3, 11/1, 11/2, 12, 17/1, 17/2, 18, 20/11/1, 20/11/2, and 21 are rejected under 35 USC 102(b) as anticipated by the disclosure of US Patent No. 4,241,680 (Hinch et al.). The remaining claims are rejected as obvious from the disclosures of Hinch et al. in view of US Patent No. 5,193,472 (Crossley).

Preliminarily, it is noted that Hinch discloses a solenoid assembly for reciprocating a core 16 which is drivingly connected to a hollow needle 26. Fig. 5 illustrates the current of the rear solenoid and the forward solenoid and the current is shaped like a triangle. The current has a high value at the beginning of a cycle and lowers to zero during the cycle and this is true for both solenoids. Since the gap between the movable core 16 and the fixed armature is big at the beginning of the cycle and approaches zero during the cycle and because considerable masses are connected to the core, a harmonic motion of the core and needle is to be expected from the current values shown in Fig. 5. There is certainly no disclosure or even any suggestion that a plot of the movement of the needle will be significantly different from the "needle" curve of Fig. 1 of the subject application. In column 7 of Hinch et al., beginning at line 3, there is a description of a stop condition that would be initiated in the event that a needle broke or a yarn broke. The reference teaches here that movement of the core is stopped only when the needle is retracted and that is illustrated in Fig. 5. In the next paragraph, the reference indicates that the needle can be stopped not only when it is retracted but also when it is extended and that the stopped time can be varied. Clearly, the reference is concerned at this point in its disclosure with a method for stopping the apparatus rather than a method for running the apparatus.

Crossley discloses a tufting machine including a circular eccentric cam 62 for effecting reciprocating movement of the needlebars. This movement is predictably characterized as simple harmonic motion as distinguished from the non-simple harmonic motion with which the present invention is concerned.

Claims 1 through 25 are now cancelled and new claims 26 through 34 are presented. Claim 26 corresponds, generally, with claim 2 rewritten in independent form. Claim 27 generally corresponds with claim 3. Claim 28 depends from new claim 26 and recites a limitation disclosed in the subject application in the paragraph beginning in line 27 on page 5. New claims 29 and 30 correspond with original claims 11 et seq. New claims 31 through 34 correspond with original claims 17 through 25. New claims 26 through 34 correspond generally with the claims in the applicants' corresponding European Patent EP 1 161 584 B1.

New claim 26 recites a new method for operating a tufting machine wherein the action of at least one of the elements is a non-simple harmonic motion and wherein the needlebar(s) is/are halted when the needles are at the yarn pick-up point. As noted above in a discussion of the two

references that were applied to the previously pending claims, those references do not disclose and do not even suggest operating one of the elements of a tufting machine in a non-simple harmonic motion. Neither do either one of the references disclose or suggest a method for operating a tufting machine in which the needles are halted at the yarn pick-up point. Accordingly, it is believed that new claim 26 and new claims 27 through 34 that depend from claim 26 are in condition for allowance.

Favorable action is solicited.

Respectfully submitted,


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